

Improved polynucleotide vaccine adjuvants and related polynucleotide vaccine formulations are disclosed which are useful in prophylactic or therapeutic vaccine and/or gene therapy-based applications. These adjuvants comprise a block copolymer and a cationic surfactant component. The inclusion of a cationic surfactant results in an increased percentage of polynucleotide that is physically associated with the adjuvant *in vitro*, resulting in enhanced *in vivo* immune responses to polynucleotide vaccines.